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TITLE: AIR INLET DEVICE FOR ENGINE WITH  
PRESSURE WAVE  
SUPERCHARGER

PUBN-DATE: December 16, 1988

INVENTOR-INFORMATION:

NAME

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ASSIGNEE-INFORMATION:

NAME

MAZDA MOTOR CORP

COUNTRY

N/A

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APPL-DATE: June 10, 1987

INT-CL (IPC): F02B027/02

US-CL-CURRENT: 123/559.1

## ABSTRACT:

**PURPOSE:** To make it possible to damp efficiently a high frequency sound and an air inlet pulse sound from a pressure wave super charger by providing cotton- like sound absorbing materials at the opening portion on the upper stream side of a bypass passage which supplies sucked air to an engine by bypassing the supercharger.

**CONSTITUTION:** The upper stream end of a chain of connecting pipes 3 extending from the air inlet manifold 2 of an engine 1 is connected to a funnel 5 on the air inlet exit side of a compressor supercharger 4. Also, an air cleaner 9 is connected to a funnel 7 on the air inlet entrance side of the supercharger 4 through a rubber hose 8. In addition, the bypass pipe 13 of the supercharger 4 is connected at a space between the air cleaner 9 and the lower stream of connecting pipes 3. In the above constitution, the inner surface of the air cleaner 9 is covered with a plurality of cotton-like sound absorbing materials 22, 23 which have a large volume and also a wide area

coming into  
contact with air, and a high sound absorption rate. As a result, a  
high  
frequency sound and an air inlet pulse sound from the supercharger  
4 are  
efficiently damped.

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TITLE: SUPERCHARGED IC ENGINE AIR COOLER

PUBN-DATE: January 14, 1988

INVENTOR-INFORMATION:

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ASSIGNEE-INFORMATION:

NAME	COUNTRY
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F02G005/02 , F02C007/143

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**ABSTRACT:**

An arrangement of the air induction system in a supercharged internal combustion engine whereby the compressed air is cooled prior to introduction into the inlet manifold (9) of the engine. The arrangement provides a turbine (20) driven by a proportion of the exhaust gas from the engine, the turbine (20) driving a compressor (21) whereby a first air stream is compressed, the first air stream thereafter being passed through an expansion device (22, 17) to a heat exchange device (7) through which a second compressed air stream passes prior to introduction into the inlet manifold (9) of the engine, the heat exchange device (7) thereby acting to cool the second compressed air stream.